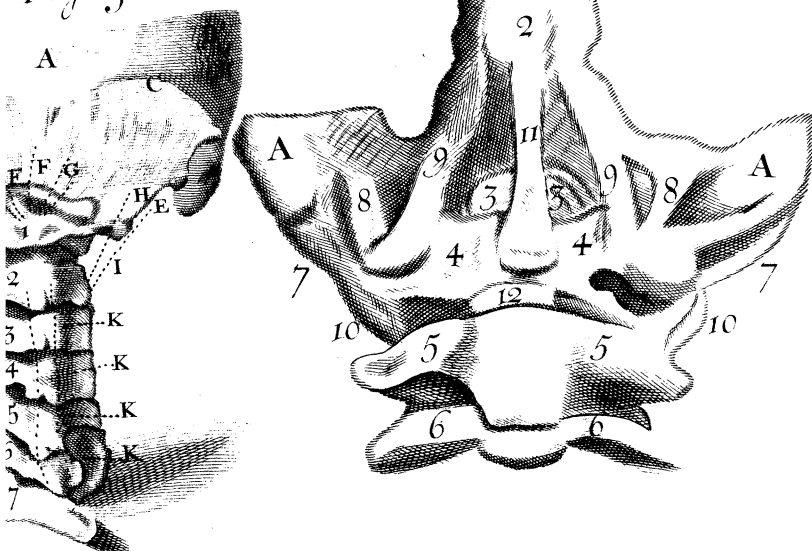


Fig: 1. of Dujre.

Fig: 3.



VI. *An Abstract of an Account of Five pair of Muscles, which serve for different Motions of the Head, on the first and Second Vertebra of the Neck; and of Two Ligaments, one of which fastens the Head to the First Vertebra, and the other fastens the First to the Second. To which is annexed the History of an Uncommon Appearance of a Humane Skull. By M. Dupre, Surgeon, and first Ayde-Major to the Hotel-Dieu in Paris: With Remarks by William Cowper.*

THIS small Tract was lately Printed in *French*, and sent from the Author to Dr. *Lister*, who Communicated it to me. The Author seems to put a Value on it, and expresses his Surprise, that such obvious Organs should escape the Observation of Anatomists: He hopes these Discoveries will excite a noble Emulation in those of his Profession, which was his principal Motive to Address them to the Surgeons of the *Hotel Dieu*.

‘ Just at the Root of the Transverse Process of the
 ‘ first *Vertebra* of the Neck (says he) arises on each
 ‘ side a Muscle that is four Lines (one third of an Inch)
 ‘ broad, and running obliquely inward, is Implanted
 ‘ to a small superficial oval *Sinus*, seated on the fore-
 ‘ part of the *Processus Styloides*; and this he calls *Ren-
 gorgeur Oblique*, or the oblique Bridler of the Head;
 and has express’d it, in his first Figure.

This

This pair of Muscles I have described in my *Myotomica Reformata*, pag. 126. Printed in the Year 1694. where I have given them the Name of *Recti interni minores*, because they incline to a right Position, lying under the *Recti Majores*, and are Antagonists to the *Recti minores* on the back part. They may be call'd from their use *Annuantes*, because they nod the Head directly foreward; one of them is express'd *in situ*, in my last mentioned Treatise, Fig. III. i, and in my Appendix to the Anatomy of Humane Bodies, Fig 8. H. and Fig. 25. i.

'On the Transverse Process (says he) of the first *Vertebra* of the Neck there arises a thick fleshy Muscle, of about a Finger in breadth, which is inserted after a Perpendicular Ascent below the *Processus Styloides*, between the Mammillary Process and that; This he calls *Rengorgeur droit*, or the streight Bridler of the Head.

Both this and the former pair of Muscles I discovered in a Humane Body Thirteen years since; and about that time shewed them to Dr. *Brown*, in the presence of my Honoured Friend Capt. *Wine*: But in examining the Original Writers on the Muscles, I soon found this latter Pair were partly mentioned by *Oribasius* after *Galen*, and well enough described by *Falloppius* in these words: *Ultimo in loco notandi sunt Musculi duo admodum parvi qui à processu transverso primæ Vertebrae orti valde graciles ascendunt ad Caput, & in illud Inferuntur prope Mammillarem processum.* These are described and Figure'd in the above-mentioned Tract, p. 127. Fig. 3. k.

The Third pair of Muscles mentioned by M. *Dupre*, by him call'd *Rengorgeur postérieur*, seems no ways to differ (by his Description) from those commonly treated of by Authors, called *Obliqui superiores*.

The Fourth pair he mentions seem to be parts of the *Recti Minores* ; ‘ These (he says) are Auxiliaries to ‘ the greater and lesser Oblique Muscles ; which I cannot but think a mistake, since those Muscles are employed in differing motions of the Head, on the first and second *Vertebra* ; and therefore one pair of Muscles can’t be the Assistant of both. He well observes, this Third and Fourth Pair of Muscles are not found in all Subjects ; I guess he means distinct from the *Recti minores*. It is certain if we are allowed to multiply Muscles from their appearance in various Subjects, we shall never arrive to a perfect *Myology* : It being common to find Distinct Muscles in some Bodies which are not so in others, as has been frequently observed in the *Rhomboïdes*, *Psoas*, *Elevator Scapulæ*, and many more.

‘ The last pair of Muscles mentioned by our Author arise from the midst of the Transverse Processes of ‘ the Second *Vertebra*, and are small, short Muscles ‘ Inserted to the Roots beneath the Transverse Processes of the First *Vertebra*. These he calls the Flexors ‘ of the first *Vertebra* on the Second, from their use.

Having lately an opportunity of Examining these parts in a Boy ; tho’ much Emaciated, I could discover fleshy Fibres that resembled such Muscles, and that not only between the Transverse Processes of the First and Second *Vertebra*, but the two next also ; and I am apt to think, the next to them in like manner ; but my time would not give me leave to prosecute the Enquiry. However I can hardly persuade my self that those Muscles can bend the first *Vertebra* on the Second ; the difficulty of which Motion in these *Vertebrae*, will be very manifest to any that will be pleased to examine their manner of Articulation : Since it appears that the two flat Processes of those *Vertebrae* are applied to each other in a Horizon-

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tal manner, and are therefore only fitted for turning to either side, by means of the *Axis* or Tooth-like Process of the Second *Vertebra*. These Muscles I am inclin'd to think are Auxiliaries to the *Obliqui Inferiores*, but being very small are only employed in shaking the Head; either of them acting may draw the Transverse Process of the first *Vertebra*, to a Perpendicular with the Second; as when we express Sorrow by shaking the Head. The Muscles placed between the Transverse Processes of the other *Vertebrae* of the Neck, are Employed in drawing the Superior *Vertebrae* laterally.

The Motion of the Head on the first *Vertebra* is so manifest from the manner of its Articulation, that I cannot but admire, how most of the late Anatomists (as M. *Dupre* takes notice) should say it was only mov'd on the Second.

'The First of the Two Ligaments, mentioned by M. *Dupre*, is placed, he says, between the first and second *Vertebra*, in their middle and Foreparts; which does in no respect seem to differ from that described by *Galen*, *Vesalius*, and almost all Writers on the Subject; the like being found between the fore-parts of the rest of the *Vertebrae*.

'The Second Ligament (he says) is an Inch long, and of the bigness of a Goose-Quill, and is fastned above to the middle of the Elongation of the Occipital-bone, and the upper, middle, and anterior part of the first *Vertebra*: He adds, It is observable, when this Ligament is wanting, the *Aponeurosis* which fastens the Occipital-bone to the *Vertebra*, is Stronger and Thicker in that part. In this likewise I see no such Disagreement from the Description given by most Writers of the Ligaments of this part, as deserves the Title of a new Discovery; it being very obvious, that the middle of
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the fore-part of that Ligament is much thicker than any other part of it.

The First Figure of M. Dupre Represents the lower part of the Occipital-Bone, together with the Three upper *Vertebræ* of the Neck, viewed on the Forefide.

- A. *The Mammillary Procefs.*
2. *The Elongation of the Occipital-bone.*
3. *The hole in the Occipital-bone thro' which the spinal Marrow descends.*
4. *The first Vertebra of the Neck.*
5. *The Second*
6. *The Third*
7. *The Muscle which he calls Rengorgeur posterieur, or the Posterior Muscle which Bridles the Head. This I take to be part of the Obliquus superior, as will appear by comparing his Description with that in my Myotom. Reform. p. 120. Fig III. b.*
8. *The Muscle call'd Rengorgeur droit (by Dupre) or the streight Muscle which Bridles the Head: This I have called Rectus Lateralis from its Position; It is described by Falloppius, and exprest in the last mentioned Figure at k.*
9. *The Muscle he calls Rengorgeur oblique, or the Oblique Bridling Muscle: This I have called Annuans, and Rectus internus minor, ibid. p. 126. Fig. III. i. Both this and the former Muscles are also Figur'd in my Appendix to The Anatomy of Humane Bodies, Fig. 8. and Fig. 25.*
10. *The Muscle which he calls the Flexor of the First Vertebra on the Second.*
11. *A Ligament whose upper part is fastned to the middle of the Elongation of the Occipital-bone, and*
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the other Extream of it, to the upper part of the first Vertebra ; which seems to be part of that described and figured by Vesalius, Lib. II. Cap. XXX.

12. *The other short Ligament which is commonly observed between the Foreparts of all the rest of the Vertebrae.*

The Second Figure of M. Dupre Represents part of the Occipital-bone, together with the two first Vertebrae of the Neck, view'd from behind.

1. *The Interior part of the Occipital bone.*
2. *The Musculi recti minores.*
3. *The Fourth pair of Muscles mentioned by Dupre, which he calls the Auxiliary to the greater and lesser Oblique Muscles : These I take to be parts of the last mentioned Recti.*
4. *The First and Second Vertebra of the Neck.*
- A. *The Mammiiform Process.*

These Figures being very ill done, I thought it would not be amiss to add Two Figures of the same Bones in the like Position, done after the Life ; not only for the better Explanation of the above-mentioned Muscles, but some others also, which M. Dupre may perchance find in Dissecting these Parts, and take to be new Discoveries also.

Fig. II.

Represents part of the External Surface of the Basis of the Skull, together with the Foreparts of all the Vertebrae of the Neck. N. B. The prick'd Lines denoting the Progress of the Muscles on the Bones.

A. A, &c.

- A, A, &c. Part of the *Basis* of the *Cranium*.
 B B, The Two Mammiform Processes.
 C C, The *Processus Styloides*.
 D, The Elongation of the Occipital-bone.
 E, Part of the *Foramen*, by which the Spinal Marrow descends.
 a a, Parts of the Two Condyliform Processes of the Occipital-bone, which are received by the first *Vertebra*.
 1, 2, 3, &c. The Foreparts of the Seven *Vertebrae* of the Neck.
 b, b, The Transverse Processes of the first *Vertebra*.
 c, c, Their Perforations, through which the Trunks of the Vertebral Veins and Arteries pass.
 d, d, The Transverse Processes of the Second *Vertebra*.
 e, f, g, h, i, The rest of the Transverse Processes of the *Vertebrae* of the Neck.
 k, k, Parts of the Oblique Ascending and Descending Processes behind the Transverse.
 l, l, &c. The *Foramina* between the *Vertebrae* for the Egress of Nerves from the spinal Marrow.
 F F... The *Musculi Annuantes*, by M. Dupre called *Rengorgeur oblique*.
 G G... The *Recti Laterales* by him called *Rengorgeur droit*.
 H H... The Muscles, which he says, are the Flexors of the First *Vertebra* on the Second; which I rather think are employed in Shaking the Head, they arising from the Transverse Processes of the Second *Vertebra*, and ascend obliquely forwards to the First.
 I... The *Obliquus Superior* which M. Dupre calls *Rengorgeur posterieur*.

Fig. III.

The hinder Parts of the Bones, represented in the preceding Figure, with prickd Lines, as before.

- A the Occipital-bone.
- B B, Parts of the Lambdoidal Sutures.
- C C, That part of the Occipital-bone where the *Splenius*, *Complexus*, and the rest of the Muscles of the Head cease to terminate.
- D D, The Mammiform Processes.
- E E, Parts of the Styliiform Processes.
- 1, 2, 3, &c. The back Parts of all the *Vertebrae* of the Neck.
- F F, The *Musculi recti minores*.
- G G. . . . The Muscles which M. Duprè says, are the Auxiliaries to the greater and lesser Oblique; which I take to be parts of the last mentioned *Recti minores*, and not found distinct in all Bodies.
- H H. . . . The *Recti Laterales*, mentioned by Fallopius.
- I I. . . . The small Muscles placed between the Transverse Processes of the First and Second *Vertebra* of the Neck.
- i. Another small Muscle like the former, placed between the Second and Third *Vertebra*.
- K K, &c. The Four pair of Muscles I call *Interspinales Colli*, which are described in my Book of the Muscles, &c.

*An Extract Concerning a Deformed Humane
S K V L L, from the same M. Duprè.*

Nicholas Brodes, of Thirty Years of Age, having been Afflicted for the space of Ten Years with an Incessant Head-ach, (which for the last Twelve Months before his Decease had been more violent than formerly, and depriv'd him of his Sight) upon the 15th of *March*, 1697. was received into the *Hotel Dieu*. After his Head was shaved, there appeared a large Tumor, which extended it self over the Hairy Scalp. In the midst of the left Parietal-bone, there was the Pulsation of an Artery, and a small Fluctuation, the rest of the Tumor being exceeding hard. *M. Dupre*, fearing this might be an Aneurism, was unwilling to open the Tumor, till he was constrained to it, by the importunate Intreaties of the Patient, who chose rather the Hazard of his Life, than any longer to endure so exquisite a Torment. As soon as an Aperture was made, there issu'd out a quantity of thick concreted Blood, which wet the Bolsters at every Dressing. The Second day he felt a hard Body with his Probe, loose in the Flesh, which being taken out, appeared to be a small Fragment of a Bone Exfoliated, resembling a small Comb-brush. Upon the Fourth day the Patient dyed.

In Dissecting the Head, the Tumified part of the Skull appeared to arise more than an Inch above the sound Bone. The whole Swelling of the *Cranium* was made up of several Substances, not unlike little Horns, or innumerable small hollow Cones, with their points downwards; besides a great number of Bony Fibres, straight, stiff, and pointed, resembling the Teasels used
by

by Cloth-workers. In the next place there were several Holes, some of which Perforated the Skull, others not. There was no distinction of the Sutures. The *Meninges* were Mortified and Confounded together, and in part adhered to the Bony Excrefcencies of the Left Parietal-Bone; nevertheless the Brain was found and entire. The inequalities of the inner Surface of the *Cranium*, resembled melted Metal poured down from a considerable height, on a light moving Sand; or the inside of a Grotto, in which the Stones jet out in an irregular manner. The whole Left side had lost its natural Figure, and the Right had only a few Impressions, made by the beating of the Arteries of the *Dura Mater*.

It is not unlikely (*he adds*) this might proceed from some Pocky Matter, but in an exact search of the Body no appearance of any such Distemper could be found. M. *Duprè* therefore imagines, the Blood Vessels of the *Diploe* might possibly be burst by some accidental blow on the Head, or eroded by some Acidities of the Humors, and the Blood be extravasated in its Cells; this stagnating, and by degrees arriving to a very high degree of Corruption; he thinks it is not much to be admired, that the more ponderous part (by its great Acidity) should dissolve the contiguous bone, and after it has penetrated that, by eroding such nice and sensible Membranes, as the *Pericranium* and *Dura Mater*, cause exquisite pains.

To explain the Irregularities of the Skull he premises, that its upper Plate is composed of *Strata* of Bony Fibres, lying Paralel to each other, and of an Arched Figure. Now when the Volatile Acid sublimes, (*says he*) and dissolves one end of the Bony Fibre, it must by its Elasticity spring up and become erect on the other. If more of these happen to have those ends which remain on the

Cranium around one point, they form the small Cones above-noted, by means of a viscous Matter which Cements them together, and fills up their Interstices: On the contrary, if they start separately they form a Capillary Appearance.

Mr. Cowper's Remarks.

What weight these Reasons may have with an Intelligent Reader, I shall not pretend to decide.

Excrescences not unlike this of the Skull, have been observed in most other Bones of the Body (the *Os Petrosum*, *Incus*, *Malleus*, *Stapes*, &c. not excepted) and the Disease is commonly called *Spina Ventosa*. It is remarkable, that the Bones of Children and young Bodies (especially their Appendages) are more subject to the like Accidents, than those in Years; by reason their *Fibrillæ* are much softer and apt to extend, whereby that part of the Bone it self grows Tumid, and frequently becomes Carious; and this probably might give occasion for Imposing the Name of *Pædarthrocace* on that Disease, which is vulgarly call'd, *The Joint-Evil*. When the Cartilages on the extremities of Bones in their Articulations are eroded (and their Appendages thus Diseas'd) the Bony Fibres sometimes Germinate and Unite both Bones, in such a manner, that they afterwards appear to be one continued one, as I have seen in the Hip and Thigh-bone, and again in the Thigh-bone the *Tibia* and *Patella*, and frequently in the *Ossa Tarfi*, *Metatarsi*, and Bones of the Toes; many Instances of which are mentioned by Writers, in the *Vertebræ* and other Bones. This Union of Bones at their Articulations, may also happen through a defect of the Mucilage.

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The Germination of Bony Fibres, after any Peccant Matter has destroy'd some of them, and relaxt others, is no more surprizing, than the Fleſhy Inequalities we commonly meet with in hollow Ulcers, of the ſofter Parts, as in the Membranes, Muſcles, Glands, &c. Beſides the Inequalities on the Surfaces of Bones thus affected, and their being very much diſtended, I have frequently ſeen divers large holes in them; (beſides thoſe for the Tranſit of the Blood-Veſſels) ſome of which have paſt quite through them: The like has been obſerved in both Tables of the Skull, as M. Dupre has taken notice, where part of the Bone has been diſſolved into an *Ichorous* Matter, which ſometimes has happened, and the External Teguments not been injured; of both theſe Caſes I have mentioned Examples in the 93d Table, and in my Introduction to the Anatomy of Humane Bodies lately published.

**VII. *An Anatomical Account of a Child's Head,
Born without a Brain in October laſt, 1698.
By Monſ. Buſſiere.***

A French Woman living at *Dung-hill*, of a good Complexion, and in perfect Health during all the time of her being with Child, was then brought to Bed of a Boy, as big and tall as a Child can be in that Age, well ſhap'd in his Body, and Limbs very ſound, without the leaſt mark of Corruption, except that his Eyes did look as if they had been placed at the top of the Forehead; the Skull was unequal, the ſkin whereof,

